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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,677

10/15/2008

Nalinkumar L. Patel

29610/CDT499

4533

4743

7590

10/27/2010

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EXAMINER

BOHATY, ANDREW K

ART UNIT

PAPER NUMBER

1786

NOTIFICATION DATE

DELIVERY MODE

10/27/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@marshallip.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/583,677	<b>Applicant(s)</b> PATEL ET AL.	
	<b>Examiner</b> Andrew K. Bohaty	<b>Art Unit</b> 1786	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.
2. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.
3. In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-11, 17, and 18, drawn to a method of making an organic light emitting diode.

Group II, claim(s) 12, drawn to an organic light emitting diode.

Group III, claim(s) 13-16, drawn to an organic light emitting diode.

4. The groups of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:
5. Groups I and II lack unity of invention because even though the inventions of these groups require the technical feature of a light emitting diode made by the process of providing a substrate comprising a first electrode for injection of charge carrier of a first type, forming a charge transporting layer by depositing onto the substrate a charge transporting material for transporting charge carriers of the first type, the charge transporting material being soluble in a solvent; treating the charge transporting layer to render it insoluble in the solvent; forming an electroluminescent layer by depositing onto the charge transporting layer a composition comprising the solvent, a phosphorescent material, and a host material; and depositing onto the electroluminescent layer a second

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electrode for injection of charge carriers of a second type, is not a special technical feature as it does not make contributions of the prior art Funhoff et al. (US 5,518,824) (hereafter "Funhoff") in view of Zheng et al. (US 2003/0082402) (hereafter "Zheng") and Lamansky et al. (US 2002/0182441) (hereafter "Lamansky").

6. Funhoff teaches a light emitting diode made by the process of providing a substrate comprising a first electrode for injection of charge carrier of a first type, forming a charge transporting layer by depositing onto the substrate a charge transporting material for transporting charge carriers of the first type, the charge transporting material being soluble in a solvent; treating the charge transporting layer to render it insoluble in the solvent; forming an electroluminescent layer by depositing onto the charge transporting layer a composition comprising the solvent, a fluorescent material, and a host material; and depositing onto the electroluminescent layer a second electrode for injection of charge carriers of a second type (example 1 column 11 lines 37-67).

7. Funhoff does not teach where the electroluminescent layer comprising a phosphorescent material.

8. Zheng teaches light emitting diodes comprising polymer electroluminescent layers (paragraph [0048]). Zheng teaches the electroluminescent layer comprises a polymer host and a light emitting material and teaches the material can either be a fluorescent material or a phosphorescent material (paragraphs [0048] and [0049]). Zheng teaches that changing the light emitting material one can tune the emission wavelength of the device (paragraph [0049]).

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9. Lamansky teaches that light emitting diodes that use phosphorescent light emitting materials have higher quantum efficiencies than light emitting diodes that use fluorescent light emitting materials (paragraph [0003]).

10. It would have been obvious to one of ordinary skill in the art to modify the light emitting diode of Funhoff so the electroluminescent layer comprises a phosphorescent material instead of a fluorescent material. The motivation would have been to improve the quantum efficiency of the device.

11. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

12. The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention or species.

13. Should applicant traverse on the ground that the inventions have unity of invention (37 CFR 1.475(a)), applicant must provide reasons in support thereof. Applicant may submit evidence or identify such evidence now of record showing the

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inventions to be obvious variants or clearly admit on the record that this is the case.

Where such evidence or admission is provided by applicant, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew K. Bohaty whose telephone number is (571)270-1148. The examiner can normally be reached on Monday through Thursday 7:30 am to 5:00 pm EST and every other Friday from 7:30 am to 4 pm EST.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571)272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. K. B./  
Andrew K. Bohaty  
Patent Examiner, Art Unit 1786

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art  
Unit 1786